

MONITORING PLAN

PROJECT NO. LA-02

NUTRIA HARVEST AND WETLAND RESTORATION DEMONSTRATION PROJECT

DATE: May 06, 1998

Project Description

Louisiana's coastal wetlands are disappearing at a rapid rate with the combination of many factors being involved in this loss. Subsidence, salt-water intrusion, alterations to natural river systems, and herbivory combine to create conditions where coastal wetlands lose their ability to sustain healthy vegetative communities and as a result deteriorate. On a coastwide scale, herbivory, caused chiefly by the introduction of a large rodent, the nutria (*Myocastor coypus*), is perhaps the least studied or quantified aspect of wetland loss.

Historic records of the introduction of the nutria to Louisiana are unclear, however, it appears that a captive population escaped or were released to the marshes surrounding Avery Island, in Iberia Parish, in the early 1940's (Evans 1970; Lowery 1974). Expansion was widespread to most of south Louisiana by the late 1940's. By the late 1950's, it was estimated that there were 20 million nutria residing in and consuming the marshes of coastal Louisiana (Kinler 1993). During this period, impacts to agricultural crops and marsh vegetation began to be reported (Chabreck et al. 1959; Harris and Webert 1962). Scientific research conducted in response to elevated levels of herbivory revealed the severe impact that nutria have on *Sagittaria* marshes in the Atchafalaya River Delta (Fuller et al. 1985) and the brackish and freshwater marshes of the Barataria Basin (Foote and Johnson 1993).

Between the late 1960's and early 1980's millions of nutria were harvested annually each trapping season (Lowery 1974; Kinler 1993). The high price for fur made nutria trapping a viable trade and, because of this, nutria populations were in control and damage to the marsh was minimal. Recent years, however, have seen a decrease in the price and demand for nutria pelts with a corresponding decrease in harvest and a resulting increase in marsh herbivory.

On a coastwide scale, the exact acreage damaged by nutria is unknown, however, a recent survey completed for the Barataria-Terrebonne National Estuary Program has estimated that over 12,600 ac (5,099 ha) of marsh were damaged along transect lines flown in May 1993 (Linscombe and Kinler 1996). That estimate increased to over 15,400 ac (6,232 ha) by December 1993 with areas impacted showing little recovery. Extrapolation on a basin-wide scale indicated that approximately 60,000 ac (24,282 ha) were damaged in December 1993 in Barataria-Terrebonne basin alone. Damage was not limited by marsh type; swamps and bottomland hardwoods, as well as fresh, intermediate, and brackish marshes were identified as being damaged by nutria. In the spring 1996 flight, the damage had increased to over 20,600 ac (8,337 ha) along transects corresponding to 80,000 ac (32,376 ha) basin-wide. Most of the impacted acreage had not recovered from previous herbivory.

Local, state, and federal agencies have spent millions of dollars during the past 20 years on a variety of projects designed to reduce marsh loss and create additional vegetative habitat in open-water areas. These restoration projects, however, may not provide the expected level of benefit without gaining adequate control over the damage generated through nutria herbivory. As has been shown in the past, control over nutria populations can be achieved through an increase in the commercial harvest of these animals. The problem lies with the economics of the current market. To make nutria trapping economically practical, the price per animal must be in the range of \$4 to \$5 (Kinler 1993). In recent years the price for a nutria pelt has averaged between \$1 to \$3. Therefore, to make nutria trapping an economically viable option other commercially valuable uses must be found to encourage increased harvest.

Nutria meat is very healthy, being higher in protein and carbohydrates and lower in fat and cholesterol than several commonly consumed game and domestic animals. Furthermore, if properly stored after harvest and prepared correctly, nutria meat can be the basis of a delicious meal. For these reasons, in 1996, the Louisiana Department of Wildlife and Fisheries (LDWF), Louisiana Department of Health and Hospitals (LDHH), and the Louisiana Department of Agriculture and Forestry (LDAF) finalized regulations for the commercial harvest and processing of nutria for human consumption. Unfortunately, during the 1996-1997 season, none of the six processing plants processed nutria for human consumption because of a lack of demand for the meat and inadequate communication and coordination with trappers. The processing plants did, however, process nutria for alligator food.

This demonstration project is to determine, on a local level, if a system can be developed to stimulate nutria harvest by increasing the demand for nutria meat. This would be done by matching CWPPRA funds with those of participating meat processing plants to adequately compensate trappers for their efforts. To encourage their participation in the project, processors would receive a supply of nutria meat at a unit cost significantly lower than other meats. This cost savings could then be transferred to retail outlets and, ultimately, the consumer and will encourage participation and consumption of the meat. Other critical project components include recipe development and publication, as well as the development of an advertising and marketing strategy.

The LDWF will administer and monitor the Nutria Harvest Incentive Program through a regulatory process involving licensed nutria meat processors and licensed trappers. This program will involve development and implementation of a Nutria Meat Marketing Plan, identification of coastal areas impacted by nutria herbivory, quantification of statewide nutria harvest and meat sales, and monitoring of impacted area recovery. Selected trappers will be interviewed to determine harvest location and intensity and to relate harvest to impact of herbivory. Submission of various purchase and sales records will be required to ensure accurate accounting and disbursement of funds.

The project features include:

1. Licensed nutria meat processors who desire to participate in this program will provide the following components:

- a. Processors will receive nutria from trappers and divide the nutria into one of two categories for payment. A) Nutria deemed suitable for human consumption will be purchased at current market price (paid by the processor). This current market price includes the value of the pelt. In addition, through CWPPRA funding, LDWF will pay the trapper an additional \$1.00 per nutria. B) Nutria deemed unsuitable for human consumption will be purchased at current market price (paid by the processor). These nutria will be processed for their pelts and possibly for alligator food.
 - b. Processors will provide to LDWF records of all nutria purchased. Whole Nutria Purchase Records will contain date of purchase, name, address and trapper license number of seller along with a tally of nutria purchased by size and grade of meat and price paid for each.
 - c. Processors will provide to LDWF Nutria Processing Records (completed daily) listing the number of nutria processed for human consumption and poundage of meat processed in each form (bone-in, deboned, etc.). Number and pounds of meat processed must correspond to the processors' Whole Nutria Purchase Records.
 - d. Processors will provide to LDWF Nutria Meat Sales Records which must contain date of sale and name and address of purchaser along with description of product sold, poundage, and price. Through CWPPRA funding, LDWF will pay the processor \$0.75 per pound of nutria meat sold for human consumption.
 - e. Processors will be expected to offer nutria meat for sale at a reasonable price to encourage sales and consumption.
 - f. Processors will follow all rules and regulations established by LDWF, LDHH, and LDAF as well as obtaining all necessary permits, licenses, and inspections.
2. Licensed trappers who desire to participate in this program will provide the following components:
- a. Trappers will provide to LDWF completed Nutria Harvest Record Forms detailing their nutria harvest along with a description of the area (map) where nutria were harvested. Copies of nutria sales receipts will be provided to LDWF (Whole Nutria Purchase Record) verifying number of nutria sold by size, meat grade, and price of each. Sales receipts will contain the name, address, and license number of the nutria meat processor making the purchase

along with the date of the sale. These receipts must correspond to those submitted by the nutria meat processor.

- b. Through a selective interview process, trappers will provide a qualitative assessment of nutria populations and impact from herbivory in the area they trapped and an overall assessment of their trapping activity.
3. LDWF will provide the following components:
- a. Draft an appropriate cooperative agreement for nutria meat processors. The cooperative agreement will outline the specific responsibility of each participant.
 - b. Develop the application procedure, advise each participating entity of their individual responsibility and set appropriate time frames for the application process.
 - c. Receive, process, and notify applicants of their enrollment in the program.
 - d. Develop all appropriate forms:
 - i. Nutria Harvest Record (trapper).
 - ii. Whole Nutria Purchase Record (processor).
 - iii. Nutria Processing Record (processor).
 - iv. Nutria Meat Sales Record (processor).
 - e. Periodically during the trapping season, review the records submitted by each participant, determine eligibility of each request and issue appropriate payment.
 - f. Coordinate with other state agencies, universities, and consultants to conduct various Nutria Meat Marketing Activities. These activities will: a) identify potential markets, products, and consumers, b) coordinate and facilitate sales from processors to exporters, wholesalers, and retailers, c) develop an advertising and marketing strategy for various nutria meat products, and, d) develop a nutria meat cookbook or recipe cards, complete with nutritional information, and provide copies to processors, wholesalers, exporters, and retailers.

Project Objective

The primary objective of this project is to decrease the amount of current nutria herbivory damage to coastal wetlands through an increase in the commercial harvest of nutria as a method of population control.

Specific Goal

The following goal will contribute to the evaluation of the above objective:

1. Document the current extent of nutria herbivory impact in coastal Louisiana and document continued damage and/or recovery.

Monitoring Elements

The following monitoring element will provide the information necessary to evaluate the specific goal listed above:

1. LDWF will conduct annual coastwide aerial surveys to document the current year impact of nutria herbivory. Survey techniques will follow Linscombe and Kinler (1996). Results will be analyzed and estimates of acreage impacted or recovered calculated.

Monitoring Limitations

Damage to coastal wetlands by means of nutria herbivory becomes apparent only when vegetative consumption reaches excessive levels and results in "eat-outs". While aerial surveys are effective at quantifying large areas of vegetative damage they cannot determine the magnitude of damage to the marsh that occurs at less than excessive levels. Therefore, results obtained from aerial survey data may underestimate the actual effects of nutria herbivory.

Notes

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| 1. | Planned Implementation: | Start project: | November 1, 1998 |
| | | End project: | November 1, 2003 |
| 2. | USFWS Point of Contact: | Paul Yakopzack | (318)598-2126 |
| | LDWF Point of Contact: | Noel Kinler | (318)373-0032 |
| 3. | DNR Project Manager: | Stehle Harris | (504)342-6690 |
| | DNR Monitoring Manager: | Tom O'Neil | (504)342-4127 |
| | DNR DAS Assistant: | Brian Zielinski | (504)342-4123 |

4. The twenty year monitoring plan development and implementation budget for this project is \$497,816. Comprehensive reports will be available in November 1998, November 1999, November 2000, November 2001 and November 2002. These reports will describe the status and effectiveness of the project.
5. LDWF will prepare an annual report to evaluate the Nutria Harvest Incentive Program. The report will evaluate program participation, nutria harvest statistics, nutria meat processing and sales information, disbursement of funds, vegetative monitoring data, and recommendations for the next years program.

6. References:

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- Evans, J. 1970. About nutria and their control. Bureau of Sport Fisheries and Wildlife, Denver. Wildlife Research Center, Resource Publication No. 86. 65pp.
- Foote, A.L. and L.A. Johnson. 1993. Nutria grazing effects on plant biomass and stem turnover rate. Pages 21-26 in Coreill, P. (ed.) Nutria and Muskrat Management Symposium, Louisiana State University Agricultural Center. Proceedings of October 8-9 1992 conference, Baton Rouge, La.
- Fuller, D.A., C.E. Sasser, W.B. Johnson, and J.G. Gosselink. 1985. The effects of herbivory on vegetation on islands in Atchafalaya Bay, Louisiana. Wetlands 4: 105-114.
- Harris, V. T. and F. Webert. 1962. Nutria feeding activity and its effect on marsh vegetation in southeastern Louisiana. U.S. Fish. Wildl. Spec. Sci. Rep. Wildl. 64. 53pp.
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- Linscombe, G. and N. Kinler. 1996. A survey of vegetative damage caused by nutria herbivory in the Barataria and Terrebonne basins. Report to Barataria-Terrebonne National Estuary Program. 14pp. + tables, figures and appendices.
- Lowery, G.H. 1974. The Mammals of Louisiana and its Adjacent Waters. Louisiana State University Press, Baton Rouge, La. 565pp.